Studies in Rural Finance

Economics and Sociology Occasional Paper No. 1153

Successful Credit Projects In Struggling Rural Financial Markets

by

Dale W Adams

March 25, 1985

Agricultural Finance Program

Dept. of Agricultural Economics and

Rural Sociology, The Ohio State University,

Columbus, Ohio 43210

Successful Credit Projects in Struggling Rural Financial Markets

by

Dale W Adams

Governments often use credit projects to foster agricultural development, and donors have spent many billions of dollars assisting these efforts in low income countries (LICs). Most of these projects have been justified by the purported impact loans have on ultimate borrowers: e.g., credit needs filled, amounts of additional crops produced, changes in modern inputs used, increases in borrowers' incomes, and alterations in employment. Almost all project evaluations find favorable impacts that, in turn, prompt donors and governments to funnel more money into agricultural credit. These evaluations have encouraged policymakers to conclude that rural financial markets are strengthened by most credit projects.

At the same time, other researchers have evaluated rural financial markets in countries with successful credit projects and found mounting problems in these systems. They report on markets that lose substantial portions of the purchasing power of their loan portfolios to ravages of default or inflation, concentrations of cheap loans in the hands of the wealthy, political meddling in lending, systems that offer few savings opportunities, large transactions costs for lenders and borrowers, lenders who are

addicted to outside funds for their sustenance, and credit institutions that sporadically implode or self destruct (Donald, Von Pischke and others). These reports of healthy parts but infirm wholes are puzzling. How can large slices of the rural financial system that are involved in donor and government projects be doing well, while the system as a whole is doing poorly? Are these projects islands of tranquility in otherwise stormy seas? Or, is one of these two approaches to evaluation giving an erroneous picture?

Unfortunately, few credit project evaluations are published in journals or books, although a large number of these studies have been done. Typically, study results are buried in unpublished reports for governments or donor agencies, or in graduate student theses. While millions of dollars have been spent on these evaluations, relatively little has been said about the strengths and weaknesses of this research. Exceptions to this are the useful piece by David and Meyer that covers problems with quantitative methods used in these studies, and the critique by Grewal of credit studies done in India. They show that projects have been justified in two ways: through ex ante estimates of credit need or credit demand, and by ex post evaluations of loan impact on ultimate borrowers.

In the following discussion, I argue that many of these credit project evaluations are misleading and do not document the things they purport to measure. I also argue that credit-project

evaluations address questions that realistically cannot be answered and are focusing on the wrong issues. I further argue that most loan-demand or credit-impact studies include faulty assumptions and methods. I conclude by suggesting that researchers turn project evaluations away from borrowers, and focus on how these projects affect financial intermediaries and financial markets.

Credit-Demand Projections

Credit-need or demand projections are regularly used to justify the amount of funds in a project (e.g. TBAC). This technique is sometimes a subterfuge by donors or governments to support spending a politically-determined amount of money on rural problems. The heterogeneity of potential borrowers, and the effect that negative real rates of interest and slack loan recovery have on loan demand, cripple credit-need studies. If interest rates are negative in real terms, as they are in many LICs, and if borrowers steal loans with impunity--another common condition--then the demand for agricultural loans will be virtually infinite as loans become income transfers.

The excess demand for negatively priced agricultural loans in Brazil during the 1960-70s, despite gargantuan amounts of formal agricultural credit, was a dramatic and costly demonstration of the futility of basing credit projects on estimated loan demand (Araujo and Meyer). Recent wholesale defaults in the Philippines, Jamaica, the Sudan, and Nigeria are further evidence of the excess demand for loans that emerges when lenders and governments are not serious about loan recovery (Esguerra, Graham and Pollard, Ahmed, and

Adeyemo). Under these circumstances, there is no way of knowing what the effective demand for loans would be if they carried positive real prices and were collected. Most credit-need studies are a sham and are of little use in designing credit projects that boost rather than damage rural development.

Credit-Impact Studies

Ex post credit-impact studies attempt to measure the effect loans have on physical output, on use of various factors of production, on borrowers' incomes, or on employment. These studies typically compare borrowers' activities before and after they receive loans, or study a sample of borrowers and compare them with a control group of non-borrowers. The data used in impact studies may come from firm or household surveys, and/or from loan applications.

There are at least three problems with ex post credit-impact studies. First, the methods and assumptions used in measuring credit impact are suspect. Second, impact studies ignore financial savings activities. And third, impact studies usually overlook the effects credit projects have on the vitality of the financial system. A project may be judged successful on the basis of impact studies, yet it may undermine both savings mobilization and the ability of the financial intermediary to sustain financial services. Almost never are these external costs included in evaluations of credit projects.

Problems with Assumptions and Methods

Many researchers doing credit-project evaluations assume that loans are inputs. This is a serious misconception of what a loan is and leads researchers into blind allies. A loan gives the borrower additional generalized claims on all goods and services, as does any other fungible financial instrument. It is a mistake to include loans as a variable in a production function with other inputs, as some studies reviewed by Grewal have done. It is the physical input and not the financial instrument that causes production. Loans only facilitate the acquisition of inputs. At best, thinking of loans as inputs is double counting, and at worst it misinterprets the vital role financial instruments play in development. It is also an error to think people gain much from getting a single loan, or even several loans; it is far more valuable for individuals to have reliable access to a flow of financial services. Said another way, borrowers, savers, and financial intermediaries benefit much more from a dependable working relationship than from a single financial transaction.

The essential property of financial instruments, their fungibility, introduces additional problems into credit impact studies (Von Pischke and Adams). To establish a causal relationship between the use of a loan and changes in other activities in a firm or household, one must document all sources and uses of liquidity by the debtor unit before and after borrowing. One must also be able to prove that activities in question would not have taken place without the loan--the counterfactual problem. As Meyer and

Alicbusan point out, rural firms and households are heterogeneous in their sources and uses of liquidity. Further, these units have multiple sources of income, various loans, and add to or reduce their fixed assets in managing liquidity. Some borrowing units may be taking loans, making loans, and saving in financial form at the same time. Because of borrower heterogeneity and fungibility, cause and effect between loans and changes in other borrowers' economic actions is difficult to establish. It is very costly to document the additionality that a loan causes in borrowers' activities.

One hundred percent additionality occurs when a borrower would not change a given activity without a loan, but goes on to use all of the loan in that activity. In contrast, zero additionality happens when the borrower diverts all additional liquidity provided by a loan to activities not specified in the loan document. While most credit impact studies assume 100 percent additionality, a large measure of diversion and financial substitution occurs with most loans. Financial substitution happens when a borrower receives a loan for two sacks of fertilizer, and in fact buys two sacks of fertilizer, but would have bought one sack without the loan. That is, the loan resulted in 50 percent additionality and 50 percent financial substitution. Half of the loan provided the borrower additional liquidity to expand whatever activities she thought to be most desirable. If the borrower had planned to buy two sacks of fertilizer without the loan, then 100 percent financial substitution would have resulted, and the loan would have had no impact on fertilizer use, although two sacks of fertilizer were used!

Most impact studies include questionable assumptions about 100 percent additionality and zero financial substitution. Zero substitution and 100 percent additionality would mean that borrowers were not willing to put any of their discretionary liquidity into a particular activity in the absence of a loan. For this to occur, the activity must be very low on the list of priorities borrowers have for expenditures. If a loan results in 100 percent additionality lenders have forced borrowers to do something they would otherwise completely avoid. In contrast, if one accepts the premise that most borrowers are economically rational, then additional liquidity provided by a loan will flow to activities that are high on the borrower's list of priorities. Since this likely occurs with most loans, a large measure of financial substitution must be associated with borrowing. The extent of substitution or diversion cannot be documented without collecting prohibitively costly information about the borrowing unit's total sources and uses of liquidity over time. Case studies can illustrate what happens in a handful of units, but the heterogeneity of borrowers makes it impractical to do enough of these costly studies to represent all borrowers.

Use of control groups introduces additional problems because efficient lenders sort those who are creditworthy from those who are not. If lending is done carefully it should be extremely difficult to assemble control groups that are similar to borrowing groups. For example, it would be incorrect to conclude that training by a basketball coach caused his players to be tall. Good coaching

sharpens skills, but does not alter height. Players are selected because they are exceptionally tall, and no sensible coach would claim credit for these attributes--aside from the ability to select such people. If lenders do their job properly the clients they select will stand taller than the average farmer in terms of farming experience and investment opportunities. Loans will help those selected to capitalize on their opportunities more easily, but it is likely that those selected would have stood out as exceptional economic performers without loans. When borrower selection is involved, it is improper to attribute all of the differences between performance of borrowers and non-borrowers to loans (e.g. Daines). It is also difficult to sort the loan effect from the effects of technical assistance that might accompany the loan (e.g.Begashaw).

Savings Ignored

Vogel has argued convincingly that savings mobilization is half of the functions a financial market ought to perform. Because rural firms and households are heterogeneous, some units will have excess liquidity at the same time others have shortages. Informal financial markets are unable to intermediate between surplus and deficit units that are widely separated. Only a formal financial system can do this. As Gonzalez-Vega points out, financial markets that provide attractive savings deposit services allow surplus units to avoid investment and consumption alternatives within their own units that yield low returns. The fact that savers voluntarily make deposits proves they find the returns on these deposits are more attractive than alternative uses of marginal liquidity within their

own units. Formal rural financial markets that fail to provide attractive savings deposit services force surplus units to invest in low return activities and/or to consume their surpluses. This, in turn, reduces the efficiency of resources use.

How do credit projects affect savings mobilization? Frequently, donor or government projects deflect financial intermediaries from seeking or accepting savings deposits. This occurs in three ways: First, many projects require that the intermediary lend money to borrowers at concessionary interest rates: at rates that are below those charged on commercial loans, and at rates that are often lower than the expected rate of inflation. Because it is very unwieldy--even suicidal--to pay rates of interest on savings that are higher than those charged on loans, even if the lender receives a subsidy to do so, most lenders participating in credit projects pay very low rates of interest on savings accounts. Many of these lenders either do not offer deposit facilities, or if they do, they make them very unattractive for savers to use.

Another way that credit projects discourage savings mobilization is through establishing concessionary rediscount facilities in central banks. Typically, these facilities are created to transfer project funds from government or donors through the central bank to the ultimate lender. In many LICs, numerous rediscount lines in central banks are scaffolding left behind by earlier credit projects. It is almost a "commandment" for rediscount rates on these lines of credit to be concessionary. The rate the ultimate

lender is charged is often lower than the rate paid on voluntary deposits in most parts of the financial system. Thus, the ultimate borrower gets large amounts of funds through these facilities at rates lower than the already low rates they must pay their depositors. This provides powerful incentives for intermediaries to ignore, and even discourage, deposit mobilization. Intermediaries can hinder savers by imposing substantial deposit-transaction costs on them, by forcing them to maintain large minimum balances, and by severely limiting the places where, and times when, they can make deposits or withdrawals.

The third effect of credit projects on savings mobilization is subtle, yet important. These projects reorient the managers of participating intermediaries away from local depositors, as their principal client group and primary source of loanable funds, to governments and donors. This causes critical changes in manager behavior; they treat depositors as pests rather than as valued clients, and fawn over donor and government officials while seeking outside funds. Since a balanced financial system will always have many more depositors than borrowers, this results in a large number of rural people being denied access to formal financial services they would otherwise use. This reorientation also lowers the immunity of the financial intermediary to political intrusions in lending decisions, and stimulates an insidious patronal relationship between the lender and funding agencies.

The opportunity costs inflicted on an economy by these three

adverse effects of credit projects on savings mobilization are never included in the economic evaluation of credit projects. They are important and should be considered.

Lender Viability

Another problem with evaluations of credit projects is they fail to consider how the project affects the vitality of the financial intermediary. It would be an error, for example, to ignore in calculating the costs of building a dam the roads that were destroyed, bridges damaged, and vehicles worn out in transporting materials to build the dam. Clearly, the wear and tear on the transportation system should be included as part of the dam's costs. Likewise, the wear and tear on the financial system should be counted when summing the costs of a credit project. Financial intermediation is valuable, yet costly, especially when financial markets are repressed. Poorly designed projects do extensive--sometime fatal--damage to participating financial intermediaries. Symptoms of injury emerge in growing loan delinquency, high transaction costs for participants in financial intermediation, turnover in management, the collapse and renaming of lending institutions, and loans made to political cronies. Many credit projects impose costs on the financial intermediary that exceed the additional revenue collected by the lender from the project. Low interest rates, inflation, loan default, and negative margins make it impossible for lenders to sustain the real value of their loan portfolios without external transfusions.

Information from recent studies in several countries illustrate how corrosive credit projects can be on the institutions that handle them. For example, a recent study by Cuevas and Graham of agricultural lending by a government owned bank and a privately owned bank in Honduras showed loan transactions costs for lenders that far exceeded the 3-4 percent margins allowed the banks on donor funds. Even the relatively efficient private bank incurred loan transactions costs in handling donor funds that amounted to about 8 percent of the value of their agricultural loans. Administrative costs in the government bank were even higher. These costs were above and beyond loan losses due to default, a very substantial problem in the government bank. Because of reporting requirements, farm budgets, and targeting attempts, the private bank found that its administrative costs per unit of money lent to agriculture out of donor funds were nearly five times the costs of lending its own money to farmers! Under these circumstances it is clear why the government bank was continually seeking more funds from donors or government to sustain its lending efforts, and why the private bank had tepid interest in continuing to participate in donor sponsored lending.

Research by Ahmed shows similar problems in the Agricultural Bank of Sudan (ABS). This bank is very dependent on government and credit project money, and pays only 3 percent interest on its discounts from the Central Bank. Most of this money is targeted at specific agricultural activities or client groups. The ABS is limited to charging 7-9 percent per year on loans, even though its

administrative costs average from 10 to 15 percent of the value of its loans (Ahmed, pp.169-172). These costs do not include any risk premium to cover loan losses or to compensate the bank for inflation that has eroded a major part of the purchasing power of its loan portfolio during the past decade. Like its sister institution in Honduras, ABS experiences serious loan recovery problems. Not only is ABS inefficient in making loans, but it also imposes high transaction costs on its borrowers, even those with whom it has done business for many years. It is not uncommon for borrowers to incur loan transactions costs for transportation, lodging, time lost in negotiating loans, and for purchase of forms and documents that amount to several times their interest payments.

In real terms the total value of the loan portfolio of ABS is less than it was 20 years ago, even though it is the primary agricultural lender in the country. The number of bank clients has also not increased over the past decade, even though only a small percent of the farmers in the country get formal loans. ABS does not accept savings deposits and would have to pay the 8-9 percent offered on deposits by commercial banks if it were to do so. Ahmed reports that at least a few of the ABS branch managers withdraw targeted money from the Central Bank at 3 percent, deposit some of it in savings accounts at commercial banks at 9 percent, and cover part of their administrative costs from the 6 percent arbitrage!

More comprehensive research in Jamaica shows even more clearly how financial intermediaries can be bankrupted by credit projects

and associated policies (Bourne). This research highlights two large agricultural credit programs carried out by several agencies in Jamaica. The first was the Crop Lien Programme that dispensed about 22 million Jamaican dollars in alleged agricultural loans from 1977 to 1979 to a sizable portion of the farmers in Jamaica (Graham and Pollard). This project was funded by the Jamaican Government, was aimed at boosting domestic food crop production, was targeted to farmers who had no other formal loans, and was administered by the Ministry of Agriculture instead of by existing financial intermediaries. While the money was quickly disbursed--80 percent in the first year--only about 6 percent of the value of the loans was ever recovered. (One wonders why those who repaid did so? Does this prove that about 6 percent of the rural population is not economically rational?). This program sapped the ability of other lenders to recover rural loans, a problem that persists in the mid-1980s.

A second activity evaluated was the Self-Supporting Farmers' Development Programme (SSFDP) administered by the Jamaican Development Bank (JDB). SSFDP was started in 1969 and was aimed at providing supervised credit to operators of small-to-medium sized farms (Begashaw, Nyanin). It was jointly funded by the Inter-American Development Bank and the Jamaican Government through a series of credit projects. Over the years several agencies were responsible for administering SSFDP, but it ended up in the Jamaican Development Bank's hands in 1974. The JDB was only allowed to charge 4 percent interest on SSFDP loans up until 1977 when the

government raised the rate to 7 percent. The JDB was authorized to charge higher rates of interest on other parts of its portfolio, but it was not allowed to accept deposits. By the late 1970s the SSFDP program was reaching only 3-4 percent of the 172,000 small-to-medium sized farms in the country.

Four evaluations of SSFDP (in 1972, 1975, 1977, and 1980) all concluded that the program was having a positive impact on borrowers' incomes, assets, on-farm employment, and on agricultural output (JDB, SSFDP, and Begashaw). What these project evaluations did not analyze, however, were JDB's costs of administering the program--which were substantial. In 1980, Nyanin found the administrative costs for JDB on SSFDP loans were over 14 percent of the loan value. Again, this does not include any provision to cover the 10-20 percent default rates that JDB was experiencing, nor any factor to protect the purchasing power of loans against inflation. If a realistic risk premium, a hedge against inflation, and an opportunity cost of funds were added to the actual administrative costs, the JDB would have had to charge an interest rate well in excess of 50 percent to sustain the value of the SSFDP loan portfolio.

While JDB had other problems besides those imposed on it by SSFDP, the extra costs it incurred in carrying out this very expensive program helped to push the Bank into insolvency in 1981. Part of the wreckage of the JDB, along with SSFDP, was cobbled together by the government into a new agricultural bank a year later

(Graham and Connolly). A capable new manager was assigned to the new bank, but he soon resigned because of political intrusions, policies that made it impossible to run an efficient bank, and a set of activities imposed on the bank that did not pay for themselves. Despite the favorable evaluations of the SSFDP program, it is hard to see how this program strengthened and expanded rural financial services in Jamaica. Instead, SSFDP appears to have contributed to financial repression and instability in the system.

Why do project officers, policymakers, and researchers continue to stress credit impact studies and ignore the effect of credit projects on savings mobilization and the vitality of the lender? In large measure it is because of attempts to push development through earmarked credit programs: e.g. loans for rice, fertilizer, small farmers, land reform participants, and livestock. Setting credit targets give policymakers and donors illusions of control. These projects are one of the easiest things that politicians can announce as a response to pressing problems. In all too many cases, however, trying to promote economic activities through these projects is like trying to push a cart with a wet rope. Work by Cuevas and Graham has shown that loan targeting clogs information channels, substantially increases the costs of financial intermediation, and reduces the amounts of useful management information flowing through the system. Vogel and Larson have also shown that loan targets have little to do with loan allocation and production. Loan targeting and associated credit impact studies do not improve the performance of rural financial markets, rather, they damage it.

New Criteria

It is misguided to view credit as an input or attempt to measure its impact on those using loans. The results of improved financial intermediation on borrowers are too diffused, too subtle, and involve too many heterogeneous actors to measure. It is far more useful and much less costly to focus on what a project or policy does to the performance of the financial system. That is, to focus on changes in intermediaries' behavior. In doing this, it is important to remember the role a financial system plays in development. It should provide a flow of financial services to various individuals and firms. These services include loans to a few individuals and providing deposit services to a much larger number of people. A financial system must be able to sustain the quantity and quality of these services over prolonged periods. Having reliable access to a financial system that provides sustained loan and deposit services of high quality, and working with intermediaries who impose only modest transactions costs on the users of financial services results in increased efficiency, more output, and more savings. Intermediaries are usually not reliable unless they cover their costs of operations, recover most of their loans, protect or increase the purchasing power of their loan portfolios, and innovate to reduce transactions costs.

Various measures might be used to evaluate financial intermediaries, but I feel four criteria are the most useful. The first is the number of people who have regular access to formal financial services. A rural credit project might be counted

successful if it helps to increase the numbers of people who receive formal loans and who have savings accounts in rural areas. This should include increases in the number of repeat borrowers and regular users of deposit services. Nurturing more and larger credit ratings ought to be the main focus of any well designed credit project. Becoming a regular depositor can be an important way of building this rating.

A second important measure is the transactions costs involved in rural finance. If a project is successful it should stimulate banking innovations and economies of size and scope that reduce the costs of financial transactions in total, and for individual borrowers, savers, and intermediaries (Ladman). These transactions costs are similar to the friction in a motor. If friction is reduced it causes motors to run more smoothly and to last longer. Likewise, if transactions costs (per unit of money handled) are lowered financial markets work more efficiently and financial intermediaries have more longevity. For equity reasons, it will be important for intermediaries to adopt innovations that reduce the transactions costs for those seeking small loans and making small deposits. Also, if a formal financial market is working efficiently, the differences between the effective costs of borrowing from formal or informal lenders will be reduced over time for a given loan and borrower.

A third measure is changes in the quality of services provided by the financial intermediary. Quality is difficult to measure

directly, but loan recovery is an excellent proxy for it. While some loan recovery problems result from the inability to repay, a far larger number of borrowers decide to get a divorce from the lender because they place a low value on a continued relationship. Uncertainty about the availability of additional loans from the formal lender, rigid lending procedures, excessive paperwork, standing in line, bribes, paying for forms, and being forced to visit the formal lender a number of times to transact loans all reduce the perceived quality of financial services and also reduce the willingness of borrowers to maintain a good credit rating. Also, borrowers see little point in staying married to a terminally ill intermediary.

Accurate data on loan recovery by formal lenders are often hard to get. If the loan recovery performance is poor, management is often casual to devious about assembling data that clearly identify the extent of the problem. Bad news about loan recoveries hampers attempts to get more external money. Typically, if the formal lender does not brag about loan recovery performance in its annual report, default problems are serious. Even when lenders formally report on loan recoveries, they often present the measure that is most favorable to management: e.g. the total amount of loans currently overdue divided by the total amount of loans extended since the agency began operations! A more revealing measure would be the amount of payments collected during a period as a percentage of payments due during that period.

The fourth measure of performance is the extent to which the project stimulates or retards savings mobilization. This might include information on increases in number of rural savings accounts, changes in the volume of savings mobilized, and changes in the ratio of savings-to-loans by financial intermediaries. The extent to which increased attention to savings mobilization decreases the amount of political intrusions into rural financial markets, and how this affects loan recovery also might also be considered.

Conclusions

It will be impossible to improve the performance of rural financial markets in LICs unless their problems are properly diagnosed and doctored. Impact studies and credit-demand projection are not providing accurate pictures of conditions in these markets. Even worse, they are misleading policymakers into thinking that progress is being made in improving rural financial services, when too often it is not. Instead of trying to measure the impact of credit use at the farm level--something that is very difficult and costly to do--I suggest that attention be shifted to what is going on in firms providing financial services. Evaluators too often focus on the egg rather than the goose. The fitness of the goose and its ability to lay a number of eggs is the thing that is important--not getting a single egg. In too many cases credit projects and associated policies give the financial intermediaries chronic indigestion and other, sometimes fatal, maladies. It will

be impossible to clearly understand what is causing financial markets to perform badly until more appropriate questions are asked and answered about the determinants of their performance.

In most countries rural financial markets perform poorly for two reasons. The first is that farmers receive low and unstable prices for their products, and also harvest low and unstable yields. Government policies are often to blame for this (e.g. Pollard and Graham). Overvalued exchange rates, food price controls, and subsidized food imports are wet blankets on farm prices. The lack of public investments in support services for agriculture dampens both prices and yields. This depressed economic environment causes low incomes, diminished asset values, low yields on investments, and reduced savings capacities in rural areas. This, in turn, severely limits creditworthiness, loan repayment ability, the quality of loan collateral, and savings. Under these circumstances it is nearly impossible for an intermediary to achieve economies of size or scope, and to innovate.

The second reason for poor performance is more directly related to rural financial markets themselves. Debilitating policies, wrongheaded evaluations, and a clutter of well meaning, but damaging credit projects, force many rural financial intermediaries to their knees. Cheap rediscount facilities at central banks gut the incentives that banks and cooperatives have to mobilize rural savings deposits. This reorients the managers of these agencies away from rural clients to begging additional funds from donors or

governments. Political intrusions, loan targeting, and loan recovery problems are the offspring of this alliance. The multitude of credit projects imposed on financial intermediaries makes financial markets work less efficiently by increasing transaction cost. Repressed interest rates make it impossible to mobilize rural savings in substantial quantities, and induce lenders to concentrate cheap loans in the hands of the wealthy. Until these policies can be swept aside, it will be impossible, even if agricultural profits do increase, for rural financial markets in low income countries to perform up to their potential.

REFERENCES

Adeyemo, Remi. "Loan Delinquency In Multi-Purpose Union in Kwara State, Nigeria." Savings and Development 8(1984):267-274.

Ahmed, Ahmed Humeida. "Lender Behavior and the Performance of Rural Financial Markets in the Sudan." Ph.D thesis, The Ohio State University, 1980.

Araujo, Paulo F. C. de and Richard L. Meyer. "Agricultural Credit Policy In Brazil: Objectives and Results." Amer. J. of Agr. Econ. 59(1977): 957-961.

Begashaw, Girma. "Evaluation of a Supervised Credit Project In Jamaica." Soc. and Econ. Stud. 32(1983):135-169.

Bourne, Compton. "Structure and Performance of Jamaican Rural Financial Markets." Soc. and Econ. Stud. 32(1983):1-21.

Cuevas, Carlos E. and Douglas H. Graham. "Agricultural Lending Costs in Honduras." In Undermining Rural Financial Markets With Cheap Credit. Edited by Dale W Adams, Douglas H. Graham, and J. D. Von Pischke. Boulder, Colorado: Westview Press, 1984, pp.96-103.

Daines, Samuel R. "Guatemala: An Analysis of the Impact of Small Farmer Credit on Income, Employment and Food Production." Unpublished report prepared by the Division of Sector Analysis, Latin American Bureau, Agency for International Development, Washington D. C., May 1975.

David, Cristina C., and Richard L. Meyer. "Measuring the Farm Level Impact of Agricultural Loans." In Borrowers and Lenders: Rural Financial Markets & Institutions in Developing Countries. Edited by John Howell. London: Overseas Development Institute, 1980, pp. 201-234.

Donald, Gordon. Credit for Small Farmers in Developing Countries. Boulder, Colorado: Westview Press, 1976.

Esguerra, Emmanuel F. "An Assessment of the Masagana 99 Credit Subsidy As an Equity Measure." Phil. Rev. of Econ. and Bus. 18(1981):168-191.

Gonzalez-Vega, Claudio. "Interest Rate Restrictions and the Socially Optimum Allocation of Credit." Savings and Development 4(1980):5-28.

Graham, Douglas H. and Michael Connolly. "The Agricultural Bank of Jamaica: Evaluation of Current Performance, Problems and Recommendations for the Future." Unpublished report prepared for

the Agency for International Development in Jamaica, May 1984.

Graham, Douglas H. and Stephen K. Pollard. "The Crop Lien Programme: Implications of a Credit Project Transformed into an Ad-hoc Income Transfer Programme." Soc. and Econ. Stud. 32:1983):63-80.

Grewal, Harpal Singh. "An Evaluation of Research on Rural Financial Markets in India." Ph.D thesis, Ohio State University, 1982.

Jamaican Development Bank. "SSFDP:Socio Economic Evaluation Report." Unpublished reports prepared by the Jamaican Development Bank for the Inter-American Development Bank, Kingston, Jamaica,1975, 1977, and 1980.

Ladman, Jerry R. "Loan Transactions Costs, Credit Rationing, and Market Structure: The Case of Bolivia." In Undermining Rural Development With Cheap Credit. Edited by Dale W Adams, Douglas H. Graham, and J. D. Von Pischke. Boulder, Colorado: Westview Press, 1984, pp. 104-119.

Meyer, Richard L. and Adelaida P. Alicbusan. "Farm-Household Heterogeneity and Rural Financial Markets" Insights from Thailand." In Undermining Rural Development With Cheap Credit. Edited by Dale W Adams, Douglas H. Graham, and J. D. Von Pischke. Boulder Colorado:

Westview Press, 1984, pp. 22-35.

Nyanin, Ohene Owusu. "Cost of Agricultural Lending, Institutional Viability, and Lender Behavior in Jamaica." Ph.D thesis, The Ohio State University, 1982.

Pollard, Stephen K. and Douglas H. Graham. "The Performance of the Food Production Sector in Jamaica, 1962-1979: A Policy Analysis." Econ. Dev. and Cult. Change. Forthcoming.

Self Supporting Farmers Development Programme. "SSFDP: Socio Economic Evaluation Report." Unpublished report prepared by the Self Supporting Farmers Development Programme for the Inter-American Development Bank, Kingston, Jamaica, 1972.

Technical Board for Agricultural Credit (TBAC). Financing Agricultural Development: The Action Program. Manila, Philippines, Central Bank of the Philippines, 1977.

Vogel, Robert C. "Savings Mobilization: The Forgotten Half of Rural Finance." In Undermining Rural Development With Cheap Credit. Edited by Dale W Adams, Douglas H. Graham and J. D. Von Pischke. Boulder, Colorado: Westview Press, 1984, pp. 248-265.

Vogel, Robert C. and Donald W. Larson. "Illusion and Reality in Allocating Agricultural Credit." In Undermining Rural Development With Cheap Credit. Edited by Dale W Adams, Douglas H. Graham and J. D. Von Pischke. Boulder, Colorado: Westview Press, 1984, pp. 49-64.

Von Pischke, J. D. and Dale W Adams. "Fungibility and the Design and Evaluation of Agricultural Credit Projects." Amer. J. of Agr. Econ. 62(1980):719-726.

Von Pischke, J. D., Dale W Adams and Gordon Donald. Rural Financial Markets in Developing Countries: Their Use and Abuse. Baltimore: Johns Hopkins University Press, 1983.